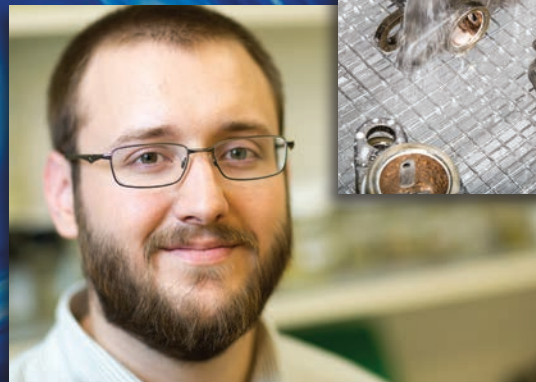
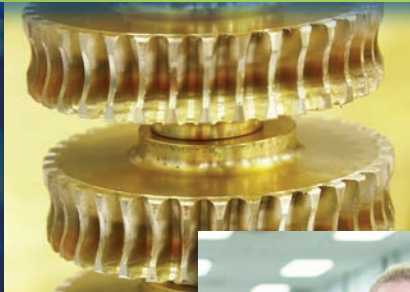


# WHAT IS SCIENCE WITHOUT CARE?



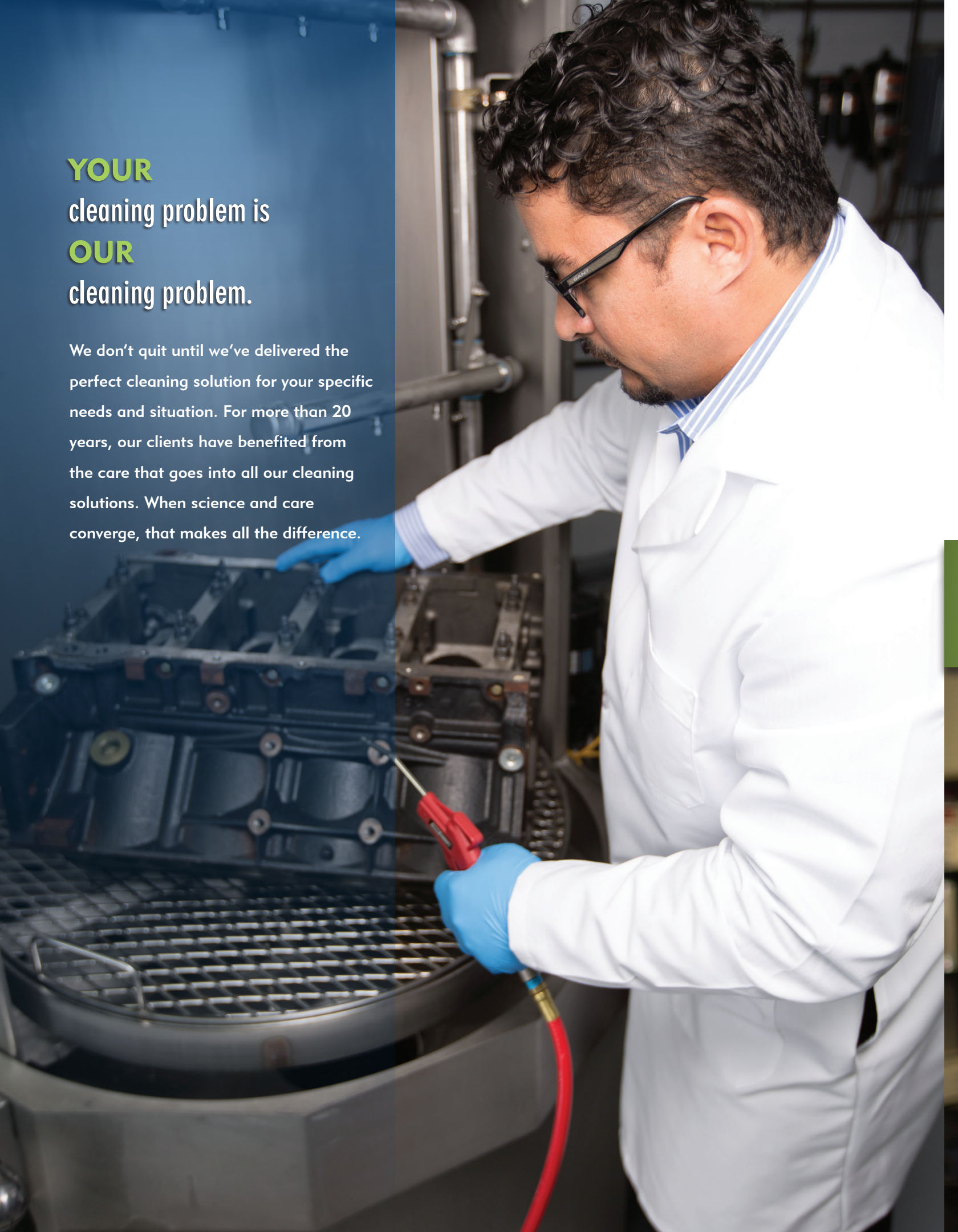
INDUSTRIAL CLEANING  
TECHNOLOGY



[KYZEN.COM](http://KYZEN.COM)  
WORLDWIDE ENVIRONMENTALLY RESPONSIBLE CLEANING TECHNOLOGIES

**YOUR**  
cleaning problem is  
**OUR**  
cleaning problem.

We don't quit until we've delivered the perfect cleaning solution for your specific needs and situation. For more than 20 years, our clients have benefited from the care that goes into all our cleaning solutions. When science and care converge, that makes all the difference.



## Cleaning is more than just getting the science right.

**WE CARE.** And that starts with getting the science right. But, it goes way beyond that. At KYZEN it means putting you, the customer first, no matter what. It means taking the time to really get to know you and understand your specific needs well enough to provide the most effective, environmentally-friendly cleaning technologies and solutions for your specific situation.

KYZEN has been pioneering the world's award-winning environmentally responsible cleaning technologies since 1990 by fusing our commitment to groundbreaking science and research with the care we

have for your manufacturing process and your success.

The word KYZEN itself is derived from the Japanese word for continuously improving. That persistent and determined drive to advance and better our cleaning technologies and service is manifested in the unique solutions developed to suit you.

You can rest assured that when a KYZEN scientist tackles a customer's problem, taking the time and care to look at it in new ways from every angle, the right solution results. We guarantee it.

**"It's not enough to know that a customer needs a solution. We want to understand why they need it and how it can help them succeed in their business."**



## We understand your performance is directly related to ours.

What sets KYZEN apart among cleaning technology companies? Beyond the fact that we are continuously honored for our innovation and service, it's the way we approach your problems as though they were our own. Others may know that a customer needs a low surface tension solution. We know why you need it, how it needs to work within your distinct parameters, limitations and challenges, where the process problems are occurring, how the solution needs to be modified and your comfort level with installing it. This kind of in-depth knowledge of your processes,

company, technical and manufacturing needs is attained when science and care converge.

Care also means responding quickly, showing up anytime, anywhere in the world there is a problem and tackling it head on until it is successfully resolved. It's what compels us to want you to achieve the highest levels of performance. And it's what motivates our world-renowned scientists and engineers to pursue and achieve the revolutionary research and innovation you need today and 20 years from now.

**ENVIRONMENTAL RESPONSIBILITY** Our teams of scientific and engineering experts go beyond being compliant with current environmental regulations. We anticipate and stay ahead of regulatory mandates, exceeding even the most stringent standards.



**SCIENCE** doesn't know  
your job depends on solving  
a cleaning problem. But,  
**CARE DOES.**

At KYZEN we empower our people to go the extra mile in understanding and meeting a customer's specific cleaning challenges and needs. Their dedication goes well beyond just doing their job. It can be found in their actions and attention to detail each day.





## GLOBAL RECOGNITION

KYZEN as a company, our world-renowned scientists and our products have all been honored with more than 40 prestigious industry awards over the years in a number of different categories:

**NEW PRODUCT INNOVATION**

**GLOBAL TECHNOLOGY**

**CUSTOMER SERVICE**

**ENVIRONMENTAL**

**BEST COST OF OWNERSHIP**

**GLOBAL REACH** With manufacturing, applications, research and engineering centers based across the globe, KYZEN's expert engineers, scientists and technicians are readily accessible around the clock to customers all over the world.



## Metal Finishing

We understand that the high performance demands of metal finishing are a broad and diverse set of needs. Whether yours are routine parts cleaning, corrosion protection, demanding Mil-Spec requirements, high reliability, automotive parts, the precision cleaning required by space systems, or anywhere in between, we know you demand reliability and performance from every part every time. Unless a surface is free of lubricants, oils and other imperfections it's not clean enough, smooth enough or ready for finishing. Soils change in metal finishing, and our experienced team of KYZEN engineers adapts and innovates to meet new and growing demands and challenges whether

from oils and coolants, metals, smut, oxides, additives or abrasive compounds.

Where science and care converge you'll find a commitment to continuous improvement, and to research and development that consistently results in some of the cleaning technology industry's most innovative products and solutions. Our high performance cleaning products and processes already help keep the metal finishing, aerospace, automotive, manufacturing, medical devices and other industries running smoothly. We can deliver, or create the right solution that can help you do the same.

**"We have the resources, talent and technologies to support our customers wherever they are – on the line, in the field and in the engineering side of things."**



# INDUSTRIAL CLEANING PRODUCTS

CLEANERS	SOIL TYPE				MATERIAL			PROCESS				
	OILS / COOLANTS (POLAR)	OILS (NON-POLAR)	CARBON / SMUT / OXIDES	LAPPING BUFFING COMPOUNDS	STEEL / MAGNESIUM TITANIUM	ALUMINUM / ZINC / DIE CAST	BRASS / COPPER / BRONZE	SPRAY SYSTEMS	ULTRASONIC CLEANING	IMMERSION WITH AGITATION	VACUUM VAPOR DEGREASING	CORROSION PROTECTION INCLUDED
METALNOX® M6093			•		•	•	•	•	•	•		
METALNOX M6094	•	•					•	•	•	•		
METALNOX M6310	•	•		•		•	•	•	•	•		•
METALNOX M6353	•	•	•			•	•		•	•		•
METALNOX M6314	•	•				•	•	•	•	•		
METALNOX M6319	•	•			•		•	•		•		
METALNOX M6319CP	•	•			•		•	•	•	•		•
METALNOX M6319US	•	•			•		•		•	•		
METALNOX M6321	•	•	•		•		•	•				
METALNOX M6324CP	•	•	•	•	•		•	•	•	•		•
METALNOX M6324R	•	•	•	•	•		•	•	•	•		
METALNOX M6324US	•	•	•	•	•		•		•	•		
METALNOX M6381		•			•	•	•				•	
METALNOX M6386	•	•			•	•	•				•	

## SPECIAL PURPOSE PRODUCTS

### KYZEN DF-7

Sump-Side Anti-Foaming Agent for Industrial Aqueous Cleaners - a blend of ingredients specially chosen to be effective at reducing foam caused by in aqueous cleaning systems at all temperatures.

### KYZEN BOOSTER 6

Maintenance Booster for METALNOX M6960 - a specialty blended stabilizer designed to be added sump-side to extend the life of bromine containing vapor degreasing systems.

### KYZEN BOOSTER 81

Maintenance Booster for METALNOX® M6381 - an additive designed to stop the formation of and neutralize acidic materials that may form in degreasing systems while removing chlorine containing oils. KYZEN'S Acid Stabilizer Kit monitors acid levels and indicates when KYZEN® Booster 81 is needed.

### KYZEN BOOSTER 86

Maintenance Booster for METALNOX® M6386 - an additive designed to stop the formation of and neutralize acidic materials that may form in degreasing systems while removing chlorine containing oils. KYZEN'S Acid Stabilizer Kit monitors acid levels and indicates when KYZEN® Booster 86 is needed



# INDUSTRIAL CLEANING PRODUCTS

SPECIALTY APPLICATIONS	SOIL TYPE			MATERIAL			PROCESS / TREATMENT				
	OILS / COOLANTS	CARBON / SMUT OXIDES	ABRASIVE COMPOUNDS	STEEL / MAGNESIUM TITANIUM	ALUMINUM / ZINC DIE CAST	BRASS / COPPER / BRONZE	PASSIVATION	PHOSPHATING	AEROSPACE / MIL-SPEC	RUST / SCALE REMOVAL	TRADITIONAL VAPOR DEGREASING
METALNOX® M6060	•			•				•			
METALNOX M6091		•		•						•	
METALNOX M6093	•	•		•	•	•	•			•	
METALNOX M6318	•			•	•	•			•		
METALNOX M6431	•		•	•	•	•			•		
METALNOX M6900	•	•	•	•	•	•			•		•
METALNOX M6920/M6922	•		•	•	•	•			•		•
SOLSTICE® PF-HP*	•			•	•	•			•		•

\* NASA has designated the solvent as the preferred alternative to AK-225G in oxygen system cleaning.

CORROSION INHIBITORS	MATERIAL			PROTECTION TYPE		
	STEEL	ALUMINUM	BRASS / COPPER	AQUEOUS - DRY FILM	OIL - WET FILM	WATER DISPLACING OIL
KYZEN® CP81	•	•	•		•	
KYZEN CP86	•	•	•		•	
KYZEN CP90D	•	•				•
KYZEN CP90S	•			•		
KYZEN CP90N	•			•		
KYZEN CP90SA	•			•		
METALNOX M6310		•	•	•		
METALNOX M6324CP	•			•		



# INDUSTRIAL CLEANING PRODUCTS

## CLEANERS

### METALNOX® M6093

Safe Citric Acid Cleaner/ Oxide Remover/ SS Passivator  
METALNOX M6093 is a citric acid formulation designed to be effective on metal oxides, scale, rust, carbonaceous soils and other industrial soils. It can be used on a variety of metals including steel and aluminum.

### METALNOX M6094

Mild Citric Acid Cleaner  
METALNOX M6094 is a mild citric acid formulation specially designed to be effective in the removal of metal oxides from yellow metals. It's safe and can be used on a variety of metals including steel, aluminum, brass, and copper.

### METALNOX M6319

Aqueous Alkaline Industrial Parts Cleaner  
METALNOX M6319 is a heavy-duty, low foaming mild alkaline chemistry designed to clean a wide range of machining oils and greases from metal parts for steel, ferrous, copper and many alloys.

### METALNOX M6321

High Alkaline Cleaner for Carbonaceous Soils  
METALNOX M6321 is an aqueous blend specially designed for heavy-duty cleaning of carbonaceous soils resulting from deep draw, laser cutting, welding, brazing and other similar operations.

### METALNOX M6324US

Heavy-Duty Alkaline Immersion and Ultrasonic Cleaner  
METALNOX M6324US is a high strength, high alkaline, aqueous cleaning chemistry which contains chemical components designed for ultrasonic and other immersion cleaning systems.

### METALNOX M6386\*

Modified Alcohol Solvent for Polar and Non-Polar Soils  
METALNOX M6386 is a modified alcohol based solvent cleaner blend designed to clean a wide range of polar and non-polar soils from ferrous and non-ferrous surfaces.

### METALNOX M6432

Neutral pH All Metal Cleaner  
METALNOX M6432 is a neutral pH cleaning chemistry designed to be effective on a variety of industrial soils including oil, grease, light oxides and buffing compound.

### METALNOX M6314

Mild Alkaline All-Metal Cleaner  
METALNOX M6314 is a safe, all-purpose aqueous cleaner, specifically designed to clean a broad range of both water soluble and insoluble oils. It is a very low solids product and is often used without a rinse, even prior to coating.

### METALNOX M6319US

Alkaline All-Purpose Ultrasonic Cleaner  
METALNOX M6319US is an alkaline cleaner designed to be used in ultrasonic parts cleaning systems. While effective on removal of most types of oils and greases, it is also an excellent chemistry for buffing, lapping and polishing compounds.

### METALNOX M6324R

Heavy-Duty Aqueous Alkaline Cleaner  
METALNOX M6324R is a high alkaline, aqueous cleaner specially designed for heavy-duty cleaning of oils, greases, oxides and carbon. M6324R is effective in high speed stamping and deep draw applications.

### METALNOX M6353

Aqueous Cleaner for Remanufacturing  
METALNOX M6353 is an immersion cleaning chemistry designed to meet the stringent demands of automotive re-manufacturing operations. It effectively removes heavily burned-on oils and carbon from aluminum parts without damaging or discoloring the aluminum. It is highly concentrated and provides for an exceptionally long bath life.

### METALNOX M6381\*\*

Precision Hydrocarbon Solvent Cleaner  
METALNOX M6381 is an aliphatic hydrocarbon blend specially designed for heavy-duty cleaning of oils, waxes, grease and shop dirt while being safe on ferrous, copper alloys, magnesium, aluminum, plastics rubbers, glass and ceramics.

### METALNOX M6440

Neutral pH Ultrasonic Immersion Cleaner for Buffing / Lapping Compounds  
METALNOX M6440 is a safe, neutral pH cleaning chemistry designed for removal of buffing compounds and metal oxides. M6440 is safe for all of the metals commonly found in the medical implant and device industries.

\*Support Products for Metalnox M6386: KYZEN Booster 86 & KYZEN Acid Stabilizer Kit 86

\*\*Support Products for Metalnox M6381: KYZEN CP81, KYZEN Booster 81 & KYZEN Acid StabilizerKit 81

## CLEANERS WITH CORROSION INHIBITION

### METALNOX® M6319CP

**Aqueous Alkaline Industrial Parts Cleaner with Rust Protection**  
METALNOX M6319CP is a heavy-duty, low foam alkaline chemistry designed to remove a wide range of machining and stamping oils from metal parts, including steel and copper alloys. M6319CP combines both exceptional cleaning and corrosion protection for steel parts. It is used in both the wash and rinse stages of multi-stage cleaning systems.

### METALNOX M6310

**Mild Alkaline Cleaner with Aluminum/Brass Protection**  
METALNOX M6310 is a mild alkaline, aqueous cleaning chemistry designed to remove machining oils, burned on carbon and other manufacturing soils from all types of metal substrates. M6310 is highly effective on tungsten carbide and other metals susceptible to chemical attack.

## CORROSION INHIBITORS

### KYZEN® CP90S

**Aqueous Long-Term Dry Film Corrosion Preventative**  
KYZEN CP90S is an aqueous blend of organic and inorganic inhibitors specially designed for long-term protection from oxidation during in-door storage. To prevent flash rusting of ferrous parts, add 1-3% CP90S to all wet stages.

### KYZEN CP90SA

**Long-Term Dry Film Corrosion Preventative**  
KYZEN CP90SA is a long term corrosion protection product proven effective in preventing rust or oxidation on all ferrous parts in the most humid environment, even during ocean freight shipment. CP90SA also ships safely via airfreight.

### KYZEN CP90D

**Water Displacing Long-Term Wet Film Corrosion Preventative**  
KYZEN CP90D is a heavy-duty blend of organic inhibitors in a water displacing hydrophobic medium. It is specifically designed for long term protection from oxidation during in-door storage.

### KYZEN CP90N

**Amine Free Aqueous Dry Film Corrosion Preventative**  
KYZEN CP90N is an amine free aqueous nitrite blend of inhibitors specifically designed for long-term protection from oxidation during in-door storage. For long term protection, add 1-5% to the final rinse.

### KYZEN CP81

**Corrosion Preventative Additive for Hydrocarbon Solvent**  
KYZEN CP81 is a heavy duty wet film corrosion preventative. CP81 is a blend of organic inhibitors explicitly designed to be used with Metalnox M6381 or other hydrocarbon solvents. CP81 offers short term and long term protection on a variety of metal parts for indoor storage.

### KYZEN CP86

**Corrosion Preventative Additive for Modified Alcohol Solvents**  
KYZEN CP86 is a heavy duty blend of organic inhibitors specifically designed to be used with Metalnox M6386 or other modified alcohol solvents in prevention of corrosion. The product offers short and long term protection on a variety of metal parts for indoor storage.

### METALNOX M6324CP

**Heavy Duty Alkaline Industrial Parts Cleaner with Rust Protection**  
METALNOX M6324CP is a heavy-duty, alkaline cleaner/inhibitor formulated to remove chlorinated, paraffinic oils used in a wide range of machining, stamping, and deep draw operations. M6324CP is built with effective steel corrosion inhibitors to provide long term protection from rust. M6324CP can also be added to both the wash and rinse stages of multi-stage cleaning systems.

## SPECIALTY APPLICATIONS

### METALNOX M6060

**Iron Phosphatizing Solution and Cleaner**  
METALNOX M6060 is an effective, pre-coating treatment chemistry for both aluminum and steel. It is used prior to coating operations for cleaning and phosphatizing, or strictly phosphatizing.

### METALNOX M6318

**Mil-Specification Compliant Alkaline Precision Cleaner**  
METALNOX M6318 is designed to clean aluminum, titanium and other materials commonly used in the military and aerospace industries. M6318 was tested and conforms to many AMS and ASTM specifications including ASTM F-1110 (Sandwich Corrosion).

### METALNOX M6091

**Strong Mineral Acid Rust / Scale Remover and Tank Neutralizer**  
METALNOX M6091 is a strong aqueous acid blend with a pH of 1. M6091 has a specially selected blend of organic and mineral acids, inhibitors and surfactants designed to be effective on metal oxides, scale, lime deposits, particulates, and other inorganic soils.

### METALNOX M6900

**Engineered Vapor Cleaning Solvent**  
METALNOX M6900 is an engineered vapor cleaning solvent designed to clean a variety of oils, greases and additional soils common to aerospace and other precision metal manufacturing applications. M6900 is a safe, cost effective, alternative to nPB, TCE, HFC/HFE fluorocarbon azeotropes, and other similar solvents in many cleaning applications.

### METALNOX M6920 / M6922

**Vapor Degreasing Solvent**  
METALNOX M6920/ M6922 are an advanced VOC-Exempt degreasing solution that offers exceptional cleaning power while meeting long-term safety and environmental requirements in typical vapor degreasing applications. Formulated to work on vapor degreasers, the non-flammable chemistry, with occupational exposure limit of 800 ppm, and low global warming potential of 1 ensures EHS compliant for worker safety and environmental impact.

### SOLSTICE PERFORMANCE FLUID PF-HP

**Vapor Degreasing Solvent**  
Solstice® PF-HP is a "HIGH PERFORMANCE" fluorinated solvent that offers exceptional cleaning power while meeting the critical non-volatile residue specifications for Oxygen Line Cleaning. It has been designated by NASA as the preferred alternative to AK-225G replacement. Solstice PF-HP has been tested with most metals commonly used in the aerospace industry for compatibility. Approved by numerous aerospace organizations as a safe and effective choice for critical cleaning, maintenance operations, and other applications where low surface tension, low volatility, low toxicity, and high cleaning performance are desired.



Because we want you to achieve the highest levels of performance, we connect care with leading science to continuously improve, problem solve and create the most effective cleaning solutions to suit your specific needs.

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